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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/563,986	01/10/2006	Takeshi Kobayashi	126576	7116
25944	7590	07/02/2007		
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			EXAMINER WILSON, GREGORY A	
			ART UNIT 3749	PAPER NUMBER
			MAIL DATE 07/02/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/563,986	Applicant(s) KOBAYASHI, TAKESHI	
	Examiner Gregory A. Wilson	Art Unit 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/10/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 27 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 27 & 28 recites the limitation "A method for producing the vertical boat for heat treatment according to Claim 11" in lines 1-2. There is insufficient antecedent basis for this limitation in the claim, since claim 11 is directed to an apparatus and indicates no showing of a method.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11-19 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Watanabe et al (5,482,558)**. **Watanabe et al** discloses a vertical boat (3) for heat treatment and includes a top plate (31), a bottom plate (32), circular arc shaped column

Art Unit: 3749

members (41-44), a plurality of grooves (220) in the column members, a supporting part (5A, 5B) (SEE Figure 5) for horizontally supporting a silicon wafer (W) to be treated being formed between the grooves and is inserted from the grooves of the column members and supported along the circumferential part of a surface of the supporting part, with regard to claims 12 and 13, Figures 3, 5 and 6 support the teaching of the column members having supporting parts each of which has a center angle as claimed, the space between column members (42 & 43) and (41 & 44) serve as vents when the supporting parts are positioned in the structure. **Watanabe et al** does not specifically recite that the supporting part is integrally formed with the column members, however, it has been held that the term "integral" is sufficiently broad to embrace constructions united by such means as fastening and welding. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains to have modified the structure of **Watanabe et al** by having the supporting parts and the column members as an integral structure since forming a structure formally of separate elements into an integral structure only involves routine skill in the art.

Claims 20-25 rejected under 35 U.S.C. 103(a) as being unpatentable over **Watanabe et al** (5,482,558) in view of **Nakai et al** (6,474,987). **Watanabe et al** teaches the applicants primary inventive concept, but does not specifically teach a supporting surface that is sloped nor having a edge which is chamfered. **Nakai et al** teaches in Figures 4 & 5 and column 3, lines 44-57, a supporting surface of a supporting part being chamfered and the supporting part having downward sloped surfaces. It would have been obvious at

Art Unit: 3749

the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains to have modified the supporting surface of Watanabe et al to include a sloped surface of Nakai et al for the purpose of preventing a flaw on the backside of a wafer, additionally, it would have been obvious to modify the supporting surface of Watanabe et al to have a chamfered edge so as not to cause a point of contact.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory A. Wilson whose telephone number is (571)272-4882. The examiner can normally be reached on 7 am - 4:30 pm EST.

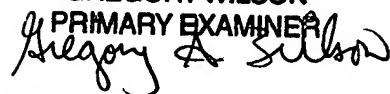
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3749

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GREGORY WILSON

PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read "Gregory A. Wilson", is written over the printed name and title.

Gaw

June 27, 2007